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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,200	05/24/2001	Sang-Ryul Park	678-658 (P9451)	3891

7590 05/07/2003

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EXAMINER

CASCHERA, ANTONIO A

ART UNIT PAPER NUMBER

2697

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/865,200	PARK, SANG-RYUL	
Examiner	Art Unit	
Antonio A Caschera	2697	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 May 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) Interview Summary (PTO-413) Paper No(s). _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in the pending application.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The phrase, "Disclosed is..." of line 3 of the abstract can be implied therefore the office suggests removing this phrase from the sentence.

The abstract suffers from a minor informality on line 5 in the phrase, "A first memory for stores YUV data..." The office suggests the phrase to read, "A first memory stores YUV data..." or some equivalent. An appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sim (U.S. Patent 6,166,720), Cahill, III (U.S. Patent 5,844,541) and further in view of Iwamura (U.S. Patent 5,844,623).

In reference to claim 1, Sim discloses a color LCD driver with a YUV to RGB converter (see column 1, lines 11-16). Note, Sim does not explicitly disclose the color display unit in a portable mobile telephone however it is well known in the art that portable mobile telephones may utilize color displays of LCD type (Official Notice). Nearly all such phones have a display and a color LCD is a conventional type of display. Sim also discloses a second memory for storing the RGB data (see #20 and 30 of Figure 1). Although Sim discloses the YUV data to be transmitted by the LCD controller to the YUV to RGB converter Sim does not explicitly disclose a first memory storing YUV data however Cahill does. Cahill discloses a flexible video system for a PC environment (see column 1, lines 14-17) which implements a YUV to RGB converter where input YUV data is stored in bitmap form in a DRAM (see column 15, lines 26-36). Note, Cahill also discloses alternate embodiments of the video system invention to support video conferencing via a T1 line which the office believes to be similar in scope to applicant's background of the invention (see page 1, lines 19-23 of specification). Neither Sim nor Cahill explicitly disclose an on-screen display controller however Iwamura does. Iwamura discloses an OSD controller in a television receiver/decoder (see #6 of Figure 2). Iwamura also discloses the OSD block to construct the on screen display information and assign appropriate colors to each pixel using a color look-up table (see column 3, lines 59-61). Iwamura discloses a mixer implemented to mix RGB data with RGB data converted from YUV data via a matrix converter (see #43, 44 and matrix converted #45, mixer #47 and #11 of Figure 2). Iwamura also discloses

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displaying the mixed data onto a display (see #32 of Figure 2). Note although Iwamura does not explicitly disclose the OSD to perform the writing of color data to their respective memories, mixing the RGB and converted RGB data and displaying the mixed data, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement an OSD controller to perform the above tasks as it is a matter of design choice as seen by the office. Further, these tasks are well known in the art to be performed on conventional computer systems by some sort of graphics adapters or controllers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mobile telephone LCD of Sim with the color conversions and storing techniques of Cahill in order to implement a video display system on a mobile phone allowing for display data to be captured, compressed/decompressed, scaled, positioned and ultimately shown on the display (see column 1, lines 10-12 and lines 30-34 of Cahill). It would have further been obvious to one of ordinary skill in the art at the time the invention was made to implement the mobile telephone LCD of Sim and the color conversions and storing techniques of Cahill with the on-screen display circuitry of Iwamura in order to mix on-screen display data with video data displaying them both together on a display.

In reference to claim 2, Sim, Cahill and Iwamura disclose all of the claim limitations as applied to claim 1 above in addition, Iwamura discloses an expander unit which increases the size of video data, in particular, it enlarges the horizontal pixel number by four-thirds the size to become compatible with the size of the selected aspect ratio of the display (see columns 3-4, lines 64-6). This expanded data is then passed onto a RGB converter to convert the data to RGB format (see #60 and #11 of Figure 2). Iwamura does not explicitly disclose the data being

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formatted to be of YUV color space type however it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an expander like hardware with YUV data in order to process and display a compatible size of color data onto a display. Further, the Iwamura reference discloses the theory of formatting data to be compatible with a display which the office believes the scope of claim 2 is directed more towards rather than the type of data being formatted.

In reference to claim 3, Sim, Cahill and Iwamura disclose all of the claim limitations as applied to claim 1 above in addition, Cahill discloses a data delivery function which performs by alternating the reading and writing of two buffers by both the host CPU and a pixel processor (see column 28, lines 46-49). Although Cahill does not explicitly disclose providing the timing signals to the two memories it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the two memories timing signals in order to notify the memories when and what type of accessing is needed. Neither Sim nor Cahill explicitly disclose an OSD mixer for mixing the RGB data output from the YUV-RGB converter with RGB data in a second memory however Iwamura does. Iwamura discloses a mixer implemented to mix RGB data with RGB data converted from YUV data via a matrix converter (see #43, 44 and matrix converted #45, mixer #47 and #11 of Figure 2). Note although the timing generator and mixer found in Cahill and Iwamura are not disclosed to be comprised within an OSD controller, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the above hardware in an OSD controller as the location of where the hardware is located is a matter of design choice, preferred by the inventor, as seen by the office.

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References Cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Keene (U.S. Patent 6,353,440 B1)
 - Keene discloses a system to generate video images comprising a first memory to store YUV data and a YUV to RGB conversion method.
- b. Barrett (U.S. Patent 6,034,667)
 - Barrett discloses a YUV to RGB converter in a color display device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (703) 305-1391. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso, can be reached at (703)-305-3885.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

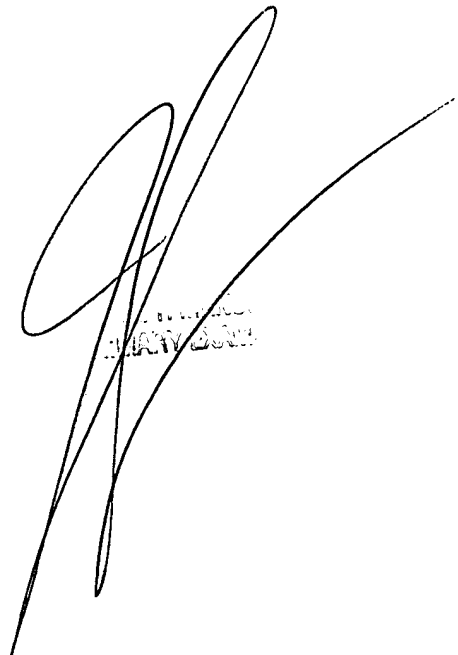
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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

aac

4/30/03

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right. Below the signature, there is a faint, rectangular stamp with illegible text.